



## Summer Math Packet – 6<sup>th</sup> Grade Math

You should complete this packet if you are entering 6<sup>th</sup> Grade Math in 2026. (6<sup>th</sup> Accelerated students should complete the 7th Grade Packet.)

The Middle School Math Department is asking you to do summer math to make the transition back to class easier for you. **The goal of the summer math packet is to be a review material covered during 5<sup>th</sup> grade. Please find time throughout the summer to complete the packet.**

Check the answers that are available to you at the end of the packet. **If you find that you need the answer sheet to answer the questions, then you may want to review those concepts before school begins.** For extra practice you can search for Khan Academy, BrainPop, or IXL. Your teacher will spend little time reviewing the skills and concepts in this packet. Expect a quiz on this in the first week of school. Good luck and see you in August!

### Instructions:

1. Use a pencil.
2. Show your work, even if you are capable of doing it in your head. Show us your steps and thought process on paper. Just writing an answer is not sufficient for most problems.
3. **Check your answers with the back of the packet.** If any problems are incorrect, put an X through your incorrect work (but do not erase it) and rework the problem again.
4. The **packet must be completed and brought to class by the 2nd of school** to be graded. This will count as an assignment. Since most answers are provided, it will mostly be graded on thoroughness of showing your work, neatness, and following directions.

## Section 1: Skill Building

### Multiplication Tables

Coming into 6<sup>th</sup> grade, you should know all your multiplication tables up through 12 times 12. You should have them memorized so that you can fill out a table like this quickly and accurately. Time yourself as you do these tables. Check to be sure that you can complete each table correctly in **less than 6 minutes**. **If you cannot do this, make or buy a set of multiplication flash cards and practice these until you have a 4 second recall for each fast fact. Multiplication facts will be assessed in the first two weeks of school.**

| X  | 3 | 7 | 6 | 11 | 8 | 9 | 5 | 12 | 4 |
|----|---|---|---|----|---|---|---|----|---|
| 8  |   |   |   |    |   |   |   |    |   |
| 6  |   |   |   |    |   |   |   |    |   |
| 5  |   |   |   |    |   |   |   |    |   |
| 11 |   |   |   |    |   |   |   |    |   |
| 3  |   |   |   |    |   |   |   |    |   |
| 7  |   |   |   |    |   |   |   |    |   |
| 9  |   |   |   |    |   |   |   |    |   |
| 12 |   |   |   |    |   |   |   |    |   |
| 4  |   |   |   |    |   |   |   |    |   |

| X  | 4 | 9 | 12 | 6 | 7 | 8 | 5 | 11 | 3 |
|----|---|---|----|---|---|---|---|----|---|
| 12 |   |   |    |   |   |   |   |    |   |
| 5  |   |   |    |   |   |   |   |    |   |
| 11 |   |   |    |   |   |   |   |    |   |
| 3  |   |   |    |   |   |   |   |    |   |
| 7  |   |   |    |   |   |   |   |    |   |
| 9  |   |   |    |   |   |   |   |    |   |
| 6  |   |   |    |   |   |   |   |    |   |
| 4  |   |   |    |   |   |   |   |    |   |
| 8  |   |   |    |   |   |   |   |    |   |

## Number Sense

Use the given digits to create (a) the smallest odd number and (b) the largest even number.

1) 3 5 8 1

a) \_\_\_\_\_

b) \_\_\_\_\_

2) 2 4 8 1 6

a) \_\_\_\_\_

b) \_\_\_\_\_

3) 4 7 8 5 3 2

a) \_\_\_\_\_

b) \_\_\_\_\_

Write out the number in **digits**.

4) 8 hundreds, 4 tens, 2 ones

5) 8 thousands, 5 tens, 9 ones

6) 5 hundreds, 42 tens, 6 ones

7) 3 ten thousands, 8 hundreds, 7 ones

8) 4 millions, 6 ten thousands, 35 tens

9) 8 ten thousands, 25 hundreds, 36 ones

## Rounding

Khan Academy: [rounding link](#)

You may do this chart in this packet. Round to the nearest stated place value.

|         | 10's   | 100's | 1000's |
|---------|--------|-------|--------|
| Ex. 735 | 740    | 700   | 1000   |
| 872     |        |       |        |
| 7,268   |        |       |        |
| 16,529  |        |       |        |
| ---     | ---    | 800   |        |
| ---     | 27,350 |       |        |

## Whole Number Arithmetic

Add or subtract. Show your work.

**12)**  $5,893 + 417$

**13)**  $495 + 87 + 7,625$

**16)**  $3,008 - 745$

**19)**  $987,654 - 88,779$

For numbers 20 and 21, fill in the boxes to make the arithmetic correct.

**20)**

$$\begin{array}{r} 47, \square 6 \square \\ + \square, 486 \\ \hline \square 0, 3\square 5 \end{array}$$

**21)**

$$\begin{array}{r} 3\square, \square 28 \\ - 18, 91\square \\ \hline 15, 511 \end{array}$$

Multiply. Show your work.

**22)**  $9 \times 58$

**23)**  $37 \times 8$

**24)**  $853 \times 6$

**25)**  $8 \times 497$

**26)**  $38 \times 67$

**27)**  $726 \times 34$

Divide. You may show your remainder, if any, as a fraction, decimal rounded to the nearest tenth, or following an 'R'.

**28)**  $79 \div 3$

**29)**  $128 \div 4$

**30)**  $1,579 \div 8$

**31)**  $2,857 \div 5$

## **Factors**

Khan Academy: [factors and multiples link:](#)

**Factors** are numbers that are multiplied to find a product. Here are some logic statements for knowing if a number is a factor.

List all the factors of these numbers. Typically they are listed from least to greatest. Always include the number 1 and the given number.

**Examples:**

**15:** 1, 3, 5, 15

**32:** 1, 2, 4, 8, 16, 32

**32)** 18

**33)** 30

**34)** 48

**35)** 72

## **Multiples**

A multiple is defined as a number you say out loud if you skip count by a number, 5, 10, 15, 20 ... are multiples of 5. Another definition is a number  $n$  is the product of any whole number and the number  $n$ . A multiple of  $n$  is always divisible by  $n$ .

**Examples:**

8 is a multiple of 2 because  $2 \times 4 = 8$  ; 8 is divisible by 2

20 is a multiple of 4 because  $4 \times 5 = 20$  ; 20 is divisible by 4

Find the first four multiples of the following numbers.

**36)** 21

**37)** 7

## Section 2: Fractions

### Common Fractions

Write 3 equivalent fractions. (Example:  $\frac{1}{2} = \frac{2}{4} = \frac{5}{10} = \frac{12}{24}$ ) Make up your own problem in the rectangle.

1)  $\frac{1}{3} =$

2)  $\frac{2}{5} =$

3)  $\frac{7}{8} =$

4)  $\frac{3}{4} =$

5)  $\frac{2}{9} =$

6)  =

Draw a number line on your paper like the one below. Estimate the location of the following fractions on the number line. Put points on the line and label the points with the fractions.

7)  $\frac{2}{3}$     $\frac{2}{5}$     $\frac{7}{7}$     $\frac{1}{2}$     $\frac{5}{6}$     $\frac{3}{8}$



8) Which is more  $\frac{8}{5}$  or  $\frac{5}{8}$ ? \_\_\_\_\_ How do you know? Explain or make a sketch to prove your answer.

9) Joe rode  $\frac{2}{5}$  of a 50K bike race, how far did he ride?

## Equivalent Fractions in Higher and Lower Terms

Khan Academy: [Equivalent fractions link](#):

You can change a fraction to an equivalent fraction, or a fraction that has the same value. To change a fraction to an equivalent fraction in **higher** terms, multiply the numerator and the denominator by the same nonzero number. This is the same as multiplying the fraction by 1 (the value of the fraction does not change!).

Example: Rewrite  $\frac{2}{3}$  with 12 as the denominator:  $\frac{2}{3} = \frac{2 \times 4}{3 \times 4} = \frac{8}{12}$

Rewrite each fraction as an equivalent fraction in higher terms.

10)  $\frac{2}{5} = \frac{\quad}{15}$

11)  $\frac{2}{9} = \frac{\quad}{18}$

12)  $\frac{5}{6} = \frac{\quad}{24}$

13)  $\frac{3}{4} = \frac{\quad}{12}$

14)  $\frac{1}{2} = \frac{\quad}{36}$

15)  $\frac{3}{8} = \frac{\quad}{56}$

Simplify or Reduce each fraction to lowest terms:

16)  $\frac{6}{8} =$

17)  $\frac{10}{12} =$

18)  $\frac{8}{20} =$

19)  $\frac{14}{16} =$

20)  $\frac{2}{6} =$

## Compare and Order Fractions

Khan academy: [Comparing and ordering fractions link](#):

Compare each pair of fractions. Use <, >, or =. Find a common denominator and write equivalent fractions

21)  $\frac{3}{8}$  ○  $\frac{2}{3}$

23)  $\frac{2}{3}$  ○  $\frac{5}{8}$

25)  $\frac{3}{9}$  ○  $\frac{1}{3}$

22)  $\frac{6}{7}$  ○  $\frac{4}{5}$

24)  $\frac{3}{8}$  ○  $\frac{3}{5}$

26)  $\frac{3}{4}$  ○  $\frac{6}{10}$

Order the following fractions from least to greatest.

27)  $\frac{5}{8}, \frac{2}{2}, \frac{7}{9}$

28)  $\frac{2}{3}, \frac{3}{4}, \frac{5}{6}$

29)  $\frac{1}{8}, \frac{1}{6}, \frac{1}{12}$

### **Addition and Subtraction of Mixed Numbers and Fractions**

Khan academy: [Addition and Subtraction link:](#)

Add and simplify/reduce. Remember to create a common denominator if the denominators are not already the same. With subtraction, remember that you may need to 'borrow' from a whole number.

30)  $\frac{7}{12} - \frac{1}{3}$

31)  $1\frac{1}{2} + \frac{1}{3}$

32)  $2\frac{1}{2} - \frac{1}{4}$

33)  $\frac{5}{8} - \frac{1}{4}$

34)  $\frac{4}{5} + \frac{3}{10}$

35)  $\frac{3}{5} - \frac{1}{2}$

36)  $2\frac{1}{2} + 1\frac{3}{4}$

37)  $\frac{3}{4} + \frac{1}{2}$

## Section 3: Decimals

### Reading and Writing Decimals

To read a decimal, read it as a whole number. Then name the place value of the last digit. For example, read and write 0.53 as fifty-three hundredths.

To read a decimal that also has a whole part:

- read the whole number part
- read the **decimal point** as an “and”
- read the decimal part as a whole number and then name the place value of the last digit
- For example, read and write 23.705 as twenty-three and seven hundred five thousandths.

Write out in words how you would read the following numbers

1) 4.672

2) 2.003

3) 3.45

Write as decimals.

4) three tenths

5) fifteen thousandths

6) ten and four hundredths

7) twenty-five hundredths

8) five and fifty-five thousandths

9) one hundred seventy-five thousandths

### Ordering Decimals

Order these decimals from least to greatest. Compare the digits on the left first, then the next, and so on. Remember their place values when comparing.

10) 2.0, 0.072, 0.2, 20.02, 2.2

11) 0.32, 0.203, 0.23, 0.302

12) 1.04, 1.054, 1.004, 1.045

## Adding and Subtracting Decimals

Khan academy: [Adding and subtracting decimals link:](#)

Answer the following addition and subtraction problems.

Example

$$\begin{array}{r} 8.9 \\ +2.6 \\ \hline 11.5 \end{array}$$

$$\begin{array}{r} 13.7 \\ - 1.8 \\ \hline 11.9 \end{array}$$

$$4.4 - 0.32 = \longrightarrow \begin{array}{r} 4.40 \\ -0.32 \\ \hline 4.08 \end{array}$$

**13)**  $4.6 + 1.03$     **15)**  $9.83 + 1.60$     **17)**  $29.8 + 4.7$     **19)**  $19.2 - 9.006$     **21)**  $4.32 + 0.61$

**14)**  $1.77 - 0.23$     **16)**  $0.24 - 0.19$     **18)**  $2.3 - 0.88$     **20)**  $0.50 + 11.204$     **22)**  $26.5 - 7.09$

## **Section 4: Word Problems**

You may need to use some different problem-solving strategies to solve these. (Draw a picture, make a list, work backwards, and guess and check are a few.) **Please choose 3 of the following 5 problems to complete. Be sure to number each problem. Show your work clearly.**

1. A man has to be at work by 9:00 a.m. and it takes him 15 minutes to get dressed, 20 minutes to eat and 35 minutes to walk to work. What is the latest time he should get up to be on-time to work?
  
2. The mass of the Great Pyramid is 557 tons greater than that of the Leaning Tower of Pisa. Stonehenge has a mass of 2,695 tons, which is 95 tons less than the Leaning Tower of Pisa. There once was a Greater Pyramid, which had a mass twice that of the Great Pyramid. What was the mass of the Greater Pyramid?
  
3. One morning a grasshopper fell down a hole 2 meters deep. Every day, he would climb  $\frac{1}{4}$  of a meter up the hole, but at night he slid down  $\frac{1}{8}$  of a meter. At this rate, how many days does it take the grasshopper to climb out?
  
4. In the first year of production, a play sells 1,572 tickets. 1,753 tickets in its second year. In its third year it sells 152 less than in its second year. How many tickets are sold in 3 years?
  
5. A grocery store has a sale on bananas. If you buy six bananas you get the sale price. If the grocer has 489 bananas, how many bunches of six can you buy at his sale price? If you wanted to buy ALL of the bananas, how many would you have to buy at the regular price?

## **Section 5: Arithmetic**

Please solve the following problems. Show all your work.

1)  $406 + 175 + 819 + 635 =$

2)  $23,706 + 297 + 4,122 + 96 =$

3)  $73,207 + 54,691 + 30,426 + 13,254 =$

4)  $8,603 + 542,006 + 23,915 =$

5)  $24,689 - 8,251 =$

6)  $8,273 - 3,638 =$

7)  $70,603 - 34,891 =$

8)  $30,000 - 7,936 =$

9)  $7,946 \times 8 =$

10)  $895 \times 78 =$

11)  $426 \div 3$

12)  $7218 \div 6$

13)  $24,636 \div 12$

14)  $45,780 \div 15$

**\*\*\* Use the key on the next two pages to check your work \*\*\***

## 6<sup>th</sup> Grade Math Summer Packet Answers

### Section 1: Skill Building

1. a) 1,385  
b) 5,318
  2. a) 24, 681  
b) 86, 412
  3. a) 234, 587  
b) 875, 432
  4. 842
  5. 8,059
  6. 359
  7. 703
  8. 926
  9. 30,807
  10. 4,060,350
  11. 82,536
- For rounding table, see the table on the next page.
12. 6,310
  13. 8,207
  14. 886
  15. 27, 478
  16. 2,263
  17. 3,542
  18. 44,113
  19. 898,875
  20.  $47,869 + 2,486 = 50,355$
  21.  $34,428 - 18,917 = 15,511$
  22. 522
  23. 296
  24. 5,118
  25. 3,976
  26. 2,546
  27. 24,684
  28.  $26\frac{1}{3}$  or 26 r1
  29. 32
  30.  $197\frac{3}{8}$  or 197 r3
  31.  $571\frac{2}{5}$  or 571 r2
  32. 1, 2, 3 6, 9, 18
  33. 1, 2, 3, 5, 6, 10, 15, 30
  34. 1,2,3,4,6,8,12,16,24, 48
  35. 1,2,3,4,6,8,9,12,18,24,36 and 72

36. 21, 42, 63, 84

37. 7, 14, 21, 28

### Section 2: Fractions

1.  $\frac{1}{3} = \frac{2}{6} = \frac{3}{9} = \frac{4}{12}$
2.  $\frac{2}{5} = \frac{4}{10} = \frac{6}{15} = \frac{8}{20}$
3.  $\frac{7}{8} = \frac{14}{16} = \frac{21}{24} = \frac{28}{32}$
4.  $\frac{3}{4} = \frac{6}{8} = \frac{9}{12} = \frac{12}{16}$
5.  $\frac{2}{9} = \frac{4}{18} = \frac{6}{27} = \frac{8}{36}$
6. your own problem
7. Number line will be checked at school.
8.  $\frac{8}{5} > \frac{5}{8}$
9. 20 kilometers
10. 6
11. 4
12. 20
13. 9
14. 18
15. 21
16.  $\frac{3}{4}$
17.  $\frac{5}{6}$
18.  $\frac{2}{5}$
19.  $\frac{7}{8}$
20.  $\frac{1}{3}$
21. <
22. >
23. >
24. <
25. =
26. >
27.  $\frac{5}{8}, \frac{7}{9}, \frac{2}{2}$
28.  $\frac{2}{3}, \frac{3}{4}, \frac{5}{6}$
29.  $\frac{1}{12}, \frac{1}{8}, \frac{1}{6}$

30.  $\frac{3}{12} = \frac{1}{4}$

31.  $1\frac{5}{6}$

32.  $2\frac{1}{4}$

33.  $\frac{3}{8}$

34.  $1\frac{1}{10}$

35.  $\frac{1}{10}$

36.  $4\frac{1}{4}$

37.  $1\frac{1}{4}$

3. 171,578

4. 574,524

5. 16,438

6. 4,635

7. 35,712

8. 22,064

9. 63,568

10. 69,810

11. 142

12. 1,203

13. 2,053

14. 3,052

### **Section 3: Decimals**

1. Four and six hundred seventy-two thousandths

2. Two and three thousandths

3. Three and forty-five hundredths

4. 0.3

5. 0.015

6. 10.04

7. 0.25

8. 5.055

9. 0.175

10. 0.072, 0.2, 2.0, 2.2, 20.02

11. 0.203, 0.23, 0.302, 0.32

12. 1.004, 1.04, 1.045, 1.054

13. 5.63

14. 1.54

15. 11.43

16. 0.05

17. 34.5

18. 1.42

19. 10.194

20. 11.704

21. 4.93

22. 19.41

### **Section 4: Word Problems**

1. 7:50 AM

2. 6,694 tons

3. 15 days

4. 4,926 tickets

5. 81 bunches at sale; 3 at regular

### **Section 5: Arithmetic**

1. 2,035

2. 28,221

### **Rounding Table From Page 2**

|               | 10's          | 100's      | 1,000's |
|---------------|---------------|------------|---------|
| <b>735</b>    | 740           | 700        | 1,000   |
| <b>872</b>    | 870           | 900        | 1,000   |
| <b>2,684</b>  | 2,680         | 2,700      | 3,000   |
| <b>7,268</b>  | 7,270         | 7,300      | 7,000   |
| <b>16,529</b> | 16,530        | 16,500     | 17,000  |
| ---           | ---           | <b>800</b> | 1,000   |
| ---           | <b>27,350</b> | 27,400     | 27,000  |